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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,850	12/02/2003	Thomas Patrick Dawson	40000-0047	5593

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EXAMINER

SAID, MANSOUR M

ART UNIT PAPER NUMBER

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/726,850

Applicant(s)

DAWSON, THOMAS PATRICK

Examiner

MANSOUR M. SAID

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/2/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-14, 17-18, 20-32, 34-35, 37-47, 49, 50-52 and 55 are rejected under 35**

U.S.C. 102(e) as being anticipated by Lacroix et al. (2003/0058216 A1; hereinafter referred to as Lacroix).

As to claim 1, Lacroix teaches wireless stylus device (page 2, paragraph 0019) comprising a housing (haptic feedback interface device, (figure 1, (12)) and page 2, paragraph 0020; a central processing unit (local processor, (figure 1, (110)) disposed in said housing (haptic feedback interface device, (figure 1, (12)) and page 2, paragraph 0020; a wireless communication receiver disposed (figure 1 and page 2, paragraph 0021) in said housing and communicatively coupled to said CPU (local processor, (figure 1, (110)) (figure 1 and page 2, paragraph 0021, wherein said wireless communication receiver is configured to receive haptic commands from a host computing device (host computer system, figure 1, (14)) (figure 1 and page 2, paragraph 2)

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and an actuator (actuator interface, (figure 1, (116)) communicatively coupled to said central processing unit (local processor, (figure 1, (110)), wherein said actuator is configured to produce a haptic sensation (figure 1 and page 2, paragraph 0021); said haptic sensation being controlled by said CPU in response to said haptic commands (figure 1 and page 2, paragraph 0021).

As to claims 2 and 25, Lacroix teaches wherein said housing comprising a cylindrical (Lacroix disclosed that the haptic feedback interface device (housing) can be stylus, which considered to have a cylindrical shape) (figure 1 and page 2, paragraphs 0019-0020).

As to claims 3, 26, 40, 43 and 45, Lacroix teaches wherein said haptic commands from a host computing device are associated with an input signal received by a host application running on said host computing device (figure 1 and page 2, paragraphs 0021-0022).

As to claim 4, Lacroix teaches wherein said CPU comprises one of a processor, a microprocessor, or an application-specific integrated circuit (ASIC) (figure 1, page 2, paragraphs 0022-0023, and page 3, paragraph 0025).

As to claims 5, 27 and 42, Lacroix teaches wherein said wireless communication receiver comprises a radio frequency (RF) receiver (Lacroix teaches a wireless transmission/reception, not limited to serial interface bus, figure 1 and page 2, paragraph 0021).

As to claims 6, 28 and 44, Lacroix teaches wherein said wireless communication receiver comprises an infrared (I/R) receiver (Lacroix teaches a wireless transmission/reception, not limited to serial interface bus, figure 1 and page 2, paragraph 0021).

As to claims 7, 29 and 39, Lacroix teaches further comprising a power supply disposed in said housing; wherein said power supply is configured to selectively provide power to said CPU and said actuator (figure 1 and page 3, paragraph 0030).

As to claim 8, Lacroix teaches wherein said power supply comprises a battery (figure 1 and page 3, paragraph 0030).

As to claims 9 and 30, Lacroix teaches wherein said battery comprises a rechargeable battery (separate component) ((figure 1 and page 3, paragraph 0030).

As to claim 10, Lacroix teaches further comprising an external power connector disposed on a surface of said housing, wherein said external power connector is configured to provide power to said rechargeable battery (separate component) when said external power connector is coupled to an outside power source ((figure 1, page 3, paragraph 0030, page 4, paragraph 0038 and column).

As to claims 11 and 31, Lacroix teaches wherein said actuator comprises an electromechanical device (figure 1 and page 3, paragraphs 0024, 0029-0030, 0044).

As to claims 12 and 32, Lacroix teaches wherein said actuator further comprises one of a linear actuator, a repulsive magnet pair, or a rotary actuator (figure 1, page 3, paragraph 0029).

As to claim 13, Lacroix teaches a data storage device communicatively coupled to said CPU; and a clock device communicatively coupled to said CPU (figure 1 and page 3, paragraph 0027).

As to claims 14 and 47, Lacroix teaches wherein said data storage device comprises a data lookup table configured to match one of said haptic commands with a corresponding actuator control signal (storage data is not limited, figures 1-4, page 3, paragraphs 0022, 0024, 0027, 0031, page 4, paragraph 0033, page 5, paragraph 0043, page 5, and paragraph 0050).

As to claims 17, 34, 49 and 55, Lacroix teaches a speaker disposed on said housing (figure 1 and page 3, paragraph 0029); wherein said speaker is communicatively coupled to said

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CPU, and wherein said CPU is configured to command said speaker to emit a sound (figure 1 and page 3, paragraph 0029).

As to claims 18 and 35, Lacroix teaches wherein said sound is associated with said haptic sensation (figure 1 and page 3, paragraph 0029).

As to claim 20, Lacroix teaches a system for providing force feedback to a wireless input device comprising: a data interface configured to be communicatively coupled to a host computing device; and a data input device configured to input data to said interface; wherein said data input device includes a housing, a central processing unit (CPU) disposed in said housing, a wireless receiver communicatively coupled to said CPU, and an actuator communicatively coupled to said CPU, wherein said actuator is configured to produce a haptic sensation.

As to claims 21 and 51, Lacroix teaches wherein said host-computing device (local processor, (figure 1, (110)) and said data interface comprise a single functional unit (figure 1, page 2, paragraphs 0017 and 0021).

As to claims 22 and 52, Lacroix teaches wherein said host computing device comprises one of a personal computer or a workstation (figure 1, page 2, paragraphs 0017 and 0021).

As to claim 23, Lacroix teaches wherein said data interface comprises a tablet (figure 1 and page 2, paragraph 0017).

As to claim 24, Lacroix teaches wherein said data input device comprises a stylus configured to interact with said host feedback application by inputting data into said host computing device via said tablet (figure 1 and page 2, paragraph 0017).

As to claim 37, Lacroix teaches a wireless stylus comprising (figure 1 page 2, paragraphs 0017 and 0019): a means for housing components (haptic feedback interface device,

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(figure 1, (12)) and page 2, paragraph 0020); a means for processing data (local processor, (figure 1, (110)), said processing means being disposed in said housing means (haptic feedback interface device, (figure 1, (12)) and page 2, paragraph 0020); for wireless communication disposed in said housing means (figure 1 and page 2, paragraph 0021) and communicatively coupled to said processing means (figure 1, page2, paragraphs 0017, and 0021-0022); and a means for actuating communicatively coupled to said processing means (local processor, (figure 1, (110)) (figure 1 and page 2, paragraph 0021), wherein said actuating means (actuator interface, (figure 1, (116)) is configured to produce a haptic sensation (figure 1 and page 2, paragraph 0021); said haptic sensation being controlled by said processing means (figure 1, page2, paragraphs 0017, and 0021-0022).

As to claim 38, Lacroix teaches wherein said means for wireless communication is configured to receive haptic commands from a host computing device and wherein said means for processing is configured to control said means for actuating in response to said haptic commands (figure 1 and page 2, paragraph 0017).

As to claim 41, Lacroix teaches a method for producing force feedback in an input device comprising (figures 1-4, page 2, paragraphs 0017 and 0021-0022): receiving stylus location data in a host computer (figures 1, page 2, paragraphs 0017, and 0019-0022); associating said stylus location data with an event in a host computer application (figures 1-4, page 2, paragraphs 0017, and 0019-0022); and if said stylus location data corresponds to an event in said host computing application, transmitting a haptic command signal to said stylus using a wireless communication device (figures 1-4, page 2, paragraphs 0017, and 0019-0022).

As to claim 46, Lacroix teaches a processor readable medium having instructions thereon for: receiving a wireless haptic command from a host computing device (figures 1-4, page 2, paragraphs 0017, 0019-0022, and page 3, paragraph 0024); associating said wireless haptic command with a haptic response signal; (figures 1-4, page 2, paragraphs 0017, and 0019-0022). and controlling an actuator with said haptic response signal (figures 1-4, page 2, paragraphs 0017, and 0019-0022).

As to claim 50, Lacroix teaches a system for providing force feedback to an input device comprising (figures 1-4, page 2, paragraphs 0017, and 0019-0022): a data input device configured to input data to a computing device (figures 1-4, page 2, paragraphs 0017, and 0019-0022), wherein said data input device includes a housing (haptic feedback interface, (figure 1)), a central processing unit (CPU) (local processor, (figure 1, (110)) disposed in said housing (figures 1-4, page 2, paragraphs 0017, and 0019-0022), a rotational trackball communicatively coupled to said CPU (figures 1, page 2, paragraphs 0017, and 0019-0022), and an actuator communicatively coupled to said CPU (figures 1-4, page 2, paragraphs 0017, and 0019-0022), wherein said actuator is configured to produce a haptic sensation on said trackball in response to signals received from said computing device (figures 1, page 2, paragraphs 0017, and 0019-0022).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 15-16, 19, 33, 36, 48 and 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lacroix in view of Silverbrook et al. (2007/0014490 A1; hereinafter referred to as Silverbrook).

As to claims 15-16, 19, 33, 36, 48 and 53-54, Lacroix haptic input device teach all claimed limitations except that a light emitting device including a light emitting diode and replaceable ink cartridge.

However, Silverbrook teaches a haptic feedback system including an electronic stylus that senses the contact force on its nib for recording pen strokes and handwriting recognition, further, the input device comprising a light-emitting device including a light emitting diode and replaceable ink cartridge (page 4, paragraphs 0018- 0019 & 0036, and page 20, paragraph 0394).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate Silverbrook's haptic feedback input device having an led emitting and replaceable ink cartridge into Lacroix haptic feedback device so that the illumination level sensed by the photo-detector varies with movement of the load bearing member within the elongate body such that the output signal for the circuitry is indicative of the input force and by configuring the pen (stylus) chassis and cartridge so that it can be inserted and

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removed from the side rather than through the ends, the capacity of the cartridge can be significantly increased (abstract and page 4, paragraph 0018).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Smith et al. (6,592,039 B1) teaches a digital pen using interferometer for relative and absolute pen position.

Guy et al. (2002/0158842 A1) teaches a force reflecting haptic interface.

Rosenberg (2002/0097223 A1) teaches a haptic feedback stylus and other.

Ben Ayed (2005/0110778 A1) teaches a wireless handwriting input device.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mansour M. Said whose telephone number is 571-272-7679. The examiner can normally be reached on Monday through Thursday from 8:30-6:00 P.M. The examiner can also be reached on alternate Friday from 8:30 a.m. to 5:00 p.m. EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe whose telephone number is 571-272-7681.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: 571-273-8300 (for Technology Center 2600 only)

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Hand-delivered responses should be brought to the Customer Service Window at the

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mansour M. Said

1/25/07

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

